

HDP DOCKET 9624-000001CPA

What is claimed is:

1. An image viewing device, comprising:

a member having an area defining an aperture, the light rays from the image entering through the aperture; and

an optical block comprised of a refractive material, the optical block being located adjacent to the aperture, the optical block being capable of compressing the light rays from the image that pass through the aperture so as to produce an image comprising at least a 180° field of view.

2. The image viewing device according to claim 1, wherein the optical block has a substantially flat surface facing towards the aperture.

~~3. The image viewing device according to claim 2, wherein the optical block has a substantially parabolic surface opposite the flat surface.~~

4. The image viewing device according to claim 2, wherein the optical block has a substantially spherical surface opposite the flat surface.

5. The image viewing device according to claim 1, wherein the optical block abuts the member having an area defining an aperture.

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6 The image viewing device according to claim 1, wherein an area defining a gap is located between the optical block and the member having an area defining an aperture.

7. The image viewing device of claim 1, further comprising a housing for receiving the optical block, wherein the housing is substantially light tight.

8. The image viewing device of claim 1, further comprising an image detection means, the optical block being located between the aperture and the image detection means, the image detection means being capable of viewing and recording the image produced by the optical block.

9. The image viewing device according to claim 1, further comprising an image intensifying means for intensifying the image produced by the optical block.

~~10. The image viewing device according to claim 9, further comprising a viewing means for viewing the image produced by either the optical block or the image intensifying means.~~

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~~11. The image viewing device according to claim 9, further comprising a recording means for recording the image produced by either the optical block or the image intensifying means.~~

~~12. The image viewing device according to claim 9, further comprising a coupling means for optically coupling the optical block to the image intensifying means.~~

13. The image viewing device according to claim 1, further comprising a cleaning means for cleaning debris from either the aperture or the surface of the optical block facing towards the aperture.

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~~14. The image viewing device according to claim 11, wherein the cleaning means comprises a selectively operable source of compressed air.~~

15. The image viewing device according to claim 1, further comprising a color filter means for selectively filtering wavelengths of visible light, the color filter means being in proximity to the optical block.

16. The image viewing device according to claim 1, wherein the optical block has an index of refraction in the range of more than about 1.

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17. The image viewing device according to claim 1, wherein the optical block has an index of refraction in the range of about 1.5 to about 4.

18. The image viewing device according to claim 1, wherein the aperture has a diameter in the range of about 100 microns to about 1 centimeter.

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A3* ~~19. The image viewing device according to claim 1, wherein the optical block is comprised of materials selected from the group consisting of plastic, glass, refractive minerals, quartz, materials transparent to infrared light, silicon, germanium, refractive liquids, water, and combinations thereof.~~

~~20. The image viewing device according to claim 1, wherein the image detection means is selected from the group consisting of photographic film, videotape detector chip, motion picture film, and combinations thereof.~~

21. The image viewing device according to claim 1, wherein a color image is produced.

22. The image viewing device according to claim 1, wherein a monochromatic image is produced.

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23. The image viewing device according to claim 1, wherein a black and white image is produced.

24. The image viewing device according to claim 1, wherein a portion of the optical block extends through the aperture, the portion of the optical block extending through the aperture focusing the incoming light rays from the image.